

Biodiversity and Community Participation

Information Resource Center
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U.S. Embassy, Jakarta

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Speaker Profile-Rhett A. Butler



Rhett founded Mongabay.com in 1999 with the mission of raising interest in and appreciation of wild lands and wildlife, while examining the impact of emerging local and global trends in technology, economics, and finance on conservation and development.

Mongabay.com is an independent information source, not affiliated with any other organiza-

tion. Because it has much exclusive content and often is the first to report on otherwise neglected environmental stories and research, its articles are frequently used as a source by well known media outlets such as the BBC, CNN, CBS, NBC, National Geographic, the Wall Street Journal, Fortune Magazine, Business Week, Bloomberg, the Discovery Channel and more.

In addition to Mongabay.com, Rhett founded Tropical Conservation Science, an academic journal that aims to provide opportunities for scientists in developing countries to publish their research, and wild-

madagascar.org, a site that highlights the spectacular cultural and biological richness of Madagascar.

Apart from his web sites, Rhett's writing has appeared in several international newspapers including the Jakarta Post. He has traveled to Indonesia many times covering Sumatra, Sulawesi, Papua and Borneo. For his wide coverage of Indonesian issues, he has created the Indonesian version of Mongabay that is accessible at: <http://indonesia.mongabay.com/>

This information package is compiled for the IIP Speaker Program on Biodiversity and Community Participation on February 13-26, 2011

Books, articles, movies and websites described in this info package present a diversity of views in order to keep our users to keep abreast of current issues in the United States in particular and worldwide in general. These items represented the views and opinions of the authors and do not necessary reflect official U.S. Government policy.

Special Points of Interest:

- Biodiversity-short for biological diversity-is the number and types of organisms in an ecosystem, region, or environment.
- Tropical rainforests support the greatest diversity of living organisms on Earth.
- Rank of five countries with the highest biodiversity are: Brazil, Columbia, China, Indonesia and Mexico

More info on biodiversity is accessible at: <http://rainforests.mongabay.com/0301.htm>

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Biodiversity

The variety of all living things; a contraction of biological diversity. Biodiversity can be measured on how many biological levels ranging from genetic diversity within a species to the variety of ecosystems on Earth. But the term most commonly refers to the number of different species in a defined area.

Recent estimates of the total number of species range from 7 to 20 million, of which only about 1.75 million species have been scientifically described. The best-studied groups include plants and vertebrates (phylum Chordata), whereas poorly described groups include fungi, nematodes, and arthropods. Species that live in the ocean, and in soils remain poorly known. For most groups of species, there is a gradient of increasing diversity from the Poles to the Equator, and the vast majority of species are concentrated in the tropical and subtropical regions.

Human activities, such as direct harvesting of species, introduction of alien species, habitat destruction, and various forms of habitat degradation (including environmental pollution), have caused dramatic losses of biodiversity; current extinction rates are

estimated to be 100-1000 times higher than pre human extinction rates.

Some measure of biodiversity is responsible for providing essential functions and services that directly improve human life. For example, many medicines, clothing fibers, and industrial products and the vast majority of foods are derived from naturally occurring species. In addition, species are the key working parts of natural ecosystem. They are responsible for maintenance of the gaseous composition of the atmosphere, regulation of the global climate, generation, and maintenance of soils, recycling of nutrients and waste products, and biological control of pest species. Ecosystem surely would not function if all species were lost, although it is unclear just how many species are necessary for an ecosystem to function properly.

Michele A. Marvier

Source: McGraw-Hill Concise Encyclopedia of Science & Technology. 6th ed. Ed. Jonathan Weil et al. Vol. 1. New York: McGraw-Hill Publishing Company, 2009



Biodiversity

Earth Day 2010 Poster

Artist: Jodie Hawgill

More posters are available at:
http://www.america.gov/earthday_2010.html

Community-Based Conservation

COMMUNITY-BASED CONSERVATION IS commonly seen as having two central objectives: to enhance conservation of wildlife, biodiversity, and/or the environment; and to provide economic, social, cultural, and political benefits to local people. These objectives are connected; when communities benefit from conservation, they will be more likely to support it. Community-based conservation is also a process achieved by a variety of mechanisms, including devolution of control over resources from states to communities, development of community institutions to manage those re-

sources, meaningful participation of communities in decision making about conservation, and legalization of property rights. Central to the community-based conservation concept is the assumption that people living closest to and depending on a resource will be most affected by its depletion, and thus have high stakes in its sustainable management.

The predecessors of community-based conservation include the concept of buffer zones, introduced by UNESCO in 1979, and Integrated Conservation and Development Projects, popularized in the late 1980s

and early 90s. Both have been criticized for their failure to adequately involve local people in planning. In theory, community-based conservation is different than its predecessors, because it places the community's involvement at the center of conservation, rather than the mechanism (such as a park or project) for achieving it. Thus, participation is critical to the community-based conservation concept, and takes place ideally at all stages, from planning to implementation, management, and monitoring.

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Community-Based Conservation

Continued from page 2

Response to “Fences and Fines”

Community-based conservation and its predecessors arose in response to critiques of the traditional parks and protected areas, or “fences and fines” approach to conservation. This approach relies on excluding people from protected areas, eliminating consumption of resources within those areas, minimizing the impacts of preferred forms of use (leisure, recreation, and scientific research), and enforcing rules by the state. Critiques of this traditional approach address pragmatic, philosophical, and justice concerns. Pragmatically, the amount of land that can ultimately be protected and the costs and effectiveness of protection efforts have been questioned. Without local support, the biological goals of conservation can be undermined through encroachment and illegal harvesting activities, and efforts to enforce exclusion can consume disproportionate amounts of conservation funds. Philosophically, parks and protected areas historically were linked to North American romanticism and European utilitarianism, both of which emphasize the separateness of humans from nature. This vision of separateness has routinely conflicted with local visions of human–environment relations in many developing countries and can undermine local cultural and social norms, and traditional knowledge. From a justice standpoint, parks and protected areas impact most on local human populations living near them by restricting access to resources and associated livelihood activities. Thus, parks can exacerbate inequities between rural people living next to them and those who gain through visiting parks or receiving wider environmental benefits of protection. Thus, community-based conservation operates on a principle that local residents with legitimate claims to land or resources must be allowed to participate in their manage-

ment and conservation.

The rise of community-based conservation also reflects more general trends, including the global spread of democracy, interest in social justice, and indigenous rights movements as well as the overall emphasis on sustainable development. With conservation and development defined as “opposite sides of the same coin,” conservation organizations began to acknowledge the development needs of local people, and community-based conservation was envisioned as the way to meet these needs. The concept was so widely promoted in the 1990s that it became almost impossible to talk about conservation without referencing the community’s involvement. Community-based conservation was in danger of becoming little more than a conservation catchphrase, appealing as it did to a wide array of conservation and development policymakers and practitioners.

Community-based conservation has experienced mixed success in practice, encountering several major obstacles. First, its implementers have failed to operationalize community participation in project identification, design, and management. Participation is, rather, often seen as a means to get people to support predetermined conservation programs. Second, community-based conservation projects have often been undertaken without an adequate understanding of local social and economic contexts and by environmental nongovernment organizations with limited experience in community development. A common recommendation for community-based wildlife conservation projects, for example, is the uncritical promotion of ecotourism, an activity that often relies on the continued existence of parks and protected areas. Third, *community* is a problematic term, too often treated as self-evident or generic. Communities are assumed to be homogenous entities, acting collectively to achieve

common environmental goals. Little consideration is given to individuals within communities and the motives they might have to work against conservation programs. Fourth, the preoccupation with community has often meant that the ways in which communities are embedded in (and constrained by) larger economic and political systems have been overlooked. Finally, community-based conservation projects have focused too much on economic incentives and have often failed to enable genuine empowerment and social justice. Proponents argue that critiques of community-based conservation arise from failure to properly implement it, rather than from any fundamental flaw with the concept itself. In contrast, a “resurgent protectionist” argument that calls for a return to people-free parks and protected areas is increasingly evident. Driven by some prominent conservation biologists, the argument cites the failure of community-based conservation to adequately protect biodiversity. What is not clear is how such a return will be done without also returning to original critiques of the protectionist paradigm. While community-based conservation may be flawed, it arose in response to real problems with parks and protected areas and it should not be deserted lightly.

(Note: Bibliography is omitted. It is available in the Source as indicated below)

LISA M. CAMPBELL
DUKE UNIVERSITY

Source: "Community-Based Conservation" Encyclopedia of Environment and Society. Ed. Paul Robbins. Vol. 1. Los Angeles: Sage Publications Inc., 2007. 328-330. [Global Reference on the Environment, Energy, and Natural Resources](#). Gale. STATE DEPARTMENT GLOBAL LIBRARY. 3 Feb. 2011.

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Articles

One Hundred Questions of Importance to the Conservation of Global Biological Diversity. W.J. Sutherland, W.M. Adams, and R.B. Aronson et al. *Conservation Biology*; Jun2009, Vol. 23 Issue 3, p557-567, 11p.

Researchers identified 100 scientific questions that, if answered, would have the greatest impact on conservation practice and policy. Representatives from 21 international organizations, regional sections and working groups of the Society for Conservation Biology, and 12 academics, from all continents except Antarctica, compiled 2291 questions of relevance to conservation of biological diversity worldwide. [...]. The questions are divided into 12 sections: ecosystem functions and services, climate change, technological change, protected areas, ecosystem management and restoration, terrestrial ecosystems, marine ecosystems, freshwater ecosystems, species management, organizational systems and processes, societal context and change, and impacts of conservation interventions. [...].

Reshaping Eden: The Future of Biodiversity. Michael Le Page. *New Scientist*; 4/24/2010, Vol. 206 Issue 2757, p38-41.

The article discusses biodiversity loss due to human action, noting the human history of killing other species and the accelerated pace of such destruction in contemporary times. Humans are said to have become the driving force in the evolution of species. Statistics are reported on the number of threatened species including 10 percent of birds, 20 percent of mammals, and a third of all amphibians. Future stresses on biodiversity associated with climate change are noted.

Saving Species, Privately. Jeff Langholz. *World Watch*; Sep/Oct2009, Vol. 22 Issue 5, p7-11.

The article focuses on the need for the private-sector investment in the creation of protected areas for biodiversity conservation and sustainable economic development. It states that bio-

logical diversity continues to decline across most of the world, despite a large number of government-protected natural areas. It offers various recommendations for policymakers to realize the potential of private protected areas including strengthening the legal framework for private protected areas.

Contact the IRC to
get the full text of
above articles

Biodiversity, Indonesia and Poverty. Yansen. *The Jakarta Post*, 11 Jan 2010.

...As a "mega-biodiversity" nation, Indonesia could become a key player in efforts to save global species. Indonesia could play a leading role in developing international policies that support conservation of tropical biological resources. Indonesia could also capitalize on expansion of international research collaborations to study biology and utilize natural products.... Unfortunately, most of this biological wealth has not been sufficiently studied, and as a result, there remains insufficient knowledge of their economic value.

Link:
<http://www.thejakartapost.com/news/2010/11/01/biodiversity-indonesia-and-poverty.html>

Community-Based Conservation: Is It More Effective, Efficient and Sustainable? Michael A. Rechlin et.al. *Future Generations Graduate School of Applied Community Change and Conservation*, March 2008.; 134p.

Perhaps roughly ten percent of the planet remains an unpeopled "grand treasure" suitable for the set-the-land-aside approach, but how do we protect the remaining ninety percent?

This paper offers an analysis of current thinking and trends in commu-

nity-based conservation that draws from the scientific literature.

Link:

http://www.future.org/sites/future.org/files/MooreConservation_Final_May2008.pdf

Highlights

Indonesia Partners with United States to Protect Tropical Forest

Washington — Indonesia is the newest participant in an innovative U.S. program to promote conservation of the world's tropical forests.

On June 30, the U.S. departments of State and Treasury announced that the governments of the United States and Indonesia, along with nongovernmental organizations Conservation International and Yayasan Keane-karagaman Hayati Indonesia (KEHATI), have concluded the largest debt-for-nature agreement in the history of a U.S. law that authorizes such pacts.

Nations that partner with the United States under the 1998 Tropical Forest Conservation Act (TFCA) commit to conserving and protecting their own precious natural resources and are encouraged to do so by having some of their official debt owed to the United States forgiven.

The agreement will reduce Indonesia's debt payments to the United States by nearly \$30 million over the next eight years. In return, the Indonesia government has committed to use these funds to support grants to protect and restore the country's tropical forests.

Read more:

<http://www.america.gov/st/energy-eng-lish/2009/July/20090701161049a-bretnuh0.1735803.html#ixzz1DWbqUI8o>

Did You Know?

Status and Trends of Indonesia's Biodiversity

In Indonesia's archipelago there are 7 major bio geographic centers on the major islands and their surrounding seas.

Conservation International considers Indonesia to be on the 17 "megadiverse" countries, with 2 of the world's 25 "hotspots", 18 World Wildlife Fund's "Global 200" ecoregions and 24 of Bird Life International's "Endemic Bird Areas."

Indonesia also possesses 10% of the world's flowering species (estimated 25,000 flowering plants) and ranks as one of the world's centers for agrobiodiversity of plant cultivars and domesticated livestock.

The country ranks first in the world for

number of mammals (515 species, 36% endemic), palms (400 species of dipterocarps), and swallowtail butterflies (121 species, 44% endemic).

It ranks third for reptiles (600+ species), fourth for birds (1519 species, 28% endemic) and fifth for amphibians (270 species).

Further, it is one of the world's centers of species diversity of hard corals and many groups of reef-associated flora and fauna.

Indonesia's rich biodiversity is being rapidly degraded and increasingly under threat from rapid landscape change, pollution and over harvesting.

The most biodiverse habitats, particularly lowland forests, are under the greatest pressure.

The main factors affecting biodiversity loss and species extinction in Indonesia are: habitat loss (since 1997, the rate of forest loss is 2.4 million ha per year or more); habitat degradation (e.g. 60% of Indonesian coral reefs degraded); overexploitation; secondary extinction; forest loss; and the economical and political crisis in the country.

Indonesia has 50 National Parks covering 16.4 million ha (including 7 marine national parks) and 527 nature reserves and game reserves covering as much as 28.3 million ha.

Forests in Indonesia cover 88,495,000 ha

Source:
<http://www.cbd.int/countries/profile.shtml?country=id#status>

Wetland: Sustaining Biodiversity

Wetlands — marshes, swamps, bogs, vernal pools, flood plains and other wet habitats — are areas of the Earth that are saturated by water during all or part of the year. They are found in every part of the world and in every climate. Interior wetlands are located where surface water collects or where underground water rises to the surface. Coastal wetlands are created by tides.

A spectacular diversity of species lives in wetland ecosystems. Their inhabitants include microbes, plants, insects, amphibians, reptiles, birds, fish and mammals. Many species of birds and mammals rely on wetlands for food, water and shelter, especially during migration and breeding. Wetlands are essential to human existence as well.

They provide:

- Flood Control — holding heavy rainfall to prevent possible flooding downstream.
- Clean water — filtering excess nutrients and pollutants before runoff reaches open water.
- Groundwater replenishment — recharging underground aquifers on which billions of people depend for drinking water.
- Shoreline stabilization — protecting against erosion, as wetland plants hold soil in place and absorb the energy of waves.
- Climate change mitigation — storing significant amounts of carbon dioxide that if released by the destruction of wetlands could contribute to global warming.
- Economic benefits — providing natural products such as fish and shellfish, timber, edible plants, and medicines derived from soils and plants.

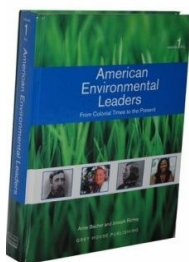
Wetlands are among the most important and productive ecosystems on Earth. Preserving them is vital.

Source:
<http://www.america.gov/st/energy-english/2010/April/20100416154420xnyazria0.5326959.html#ixzz1CbSwMiFY>



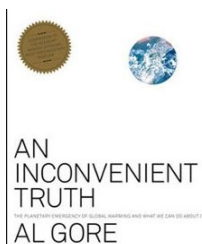
Galveston Bay Marsh-Texas
Source: NBII.gov

Books and e-Journals



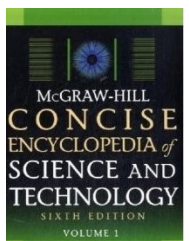
American Environmental Leaders: From Colonial Times to the Present (2 volumes) by Anne Becher and Joseph Richey. Robert Paehlke (editor). New York: Grey House Publishing, 2008. Call Number: 363.7BECa

A comprehensive and diverse of biographies of the most important figures in American environmentalism. Few subjects arouse the passions the way the environment does. How will global warming affect our future? How will we feed an ever-increasing population and how can that food be made safe for consumption? How to conserve and protect biodiversity? How human actions affect nature, etc.



Inconvenient Truth, An: The Planetary Emergency of Global Warming and What We Can Do About It by Al Gore. New York: Rodale, 2006. Call Number: 363.738747GORi

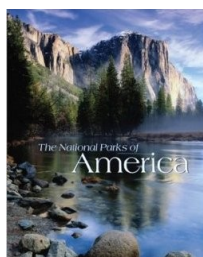
[...] In this book, Gore, who is one of our environmental heroes—and a leading expert—brings together leading-edge research from top scientists around the world; photographs, charts, and other illustrations; and personal anecdotes and observations to document the fast pace and wide scope of global warming. He presents, that the fact of global warming is not in question and that its consequences for the world we live in will be disastrous if left unchecked.



McGraw-Hill Concise Encyclopedia of Science and Technology. 6th ed. Ed. Jonathan Weil et al. Vol. 1. New York: McGraw-Hill Publishing Company, 2009. Call Number: 503-m.

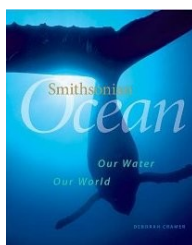
This encyclopedia provides more than

7000 concise articles covering disciplines of science and technology, including current and critical advances in fast-developing fields such as biomedical science, information technology, cosmology, environmental science, and many more.



National Parks of America, The by Michael Brett. Barron's Educational Series, 2001. Call Number: 577.7BREn

The United States was the first country in the world to set aside federally protected land as national parks[...]. Today, approximately one-eighth of the land area of the United States has been set aside for national parks, preserves, forests, and wildlife areas [...]. *The National Parks of America* is divided into regional chapters according to natural habitat and geography. Combining beautiful photographs with illuminating text, it describes each site's geology, landscape, flora, and fauna.



Smithsonian Ocean: Our Water, Our World by Deborah Cramer. Washington D.C.: Smithsonian Institution, 2008. Call Number: 578.77CRAs.

Our lives depend on the sea. In this book, author Deborah Cramer makes clear in this extraordinary volume, the ocean has been earth's lifeline for more than three and a half billion years.... Today, a single terrestrial species, man, has begun to alter the health of the sea itself.Scientists believe human impact may have already sparked a catastrophic event that could change the sea and the earth irrevocably....unlike the forces that caused previous extinctions, humankind can make a choice. We can choose the mark we wish to make and the legacy we leave behind.

For more books, check our online catalogue at:
<http://69.63.217.22/U10086Staff/OPAC/index.asp>



eJournal USA: 21st Century Agriculture, March 2010

Humanity's longest struggle has been to feed itself. This *eJournal USA* explores how 21st-century technical prowess and agricultural skill hold the key to feeding the growing populations of the future (Cover: Vast gardens surround a futuristic city in a 21st-century landscape imagined by artist Kauko Helavuo. © Getty Images). Available online at: <http://www.america.gov/media/pdf/ejs/0310.pdf#popup>



eJournal USA: Climate Change Partnership, April 2010

This issue of *eJournal USA* explains one proven and one proposed partnership structure relevant to today's climate change issue. The tested model focuses on influencing individual behavior and business practices to achieve long-term gain, the other on cultivating a creative environment within which partners can develop marketable products of immediate benefit. Available online at: http://www.america.gov/cc_partnerships.html

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Information queries may be submitted to us by phone, fax, mail, and e-mail. You are also welcome to visit us by appointment for personal research assistance.

Online Resources

NGO Sites

Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) is an international legally-binding treaty with three main goals: Conservation of biodiversity; Sustainable use of biodiversity; Fair and equitable sharing of the benefits arising from the use of genetic resources. Its overall objective is to encourage actions which will lead to a sustainable future.

More about CBD is available at: <http://www.cbd.int/>

International Union for Conservation of Nature (IUCN).

IUCN is the world's oldest and largest global environmental network, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN activities, and information resources on biodiversity can be accessed at: <http://www.iucn.org/what/tpas/biodiversity/>

United Nations Environment Program (UNEP)

UNEP is the United Nations system's designated entity for addressing environmental issues at the global and regional levels. UNEP programs on biodiversity is accessible at: <http://www.unep.org/Themes/Biodiversity/index.asp>

U.S. Government Sites

Global Biodiversity Information Facility (GBIF)

GBIF is an international U.S. government-initiated and funded initiative focused on making biodiversity data available to all and anyone, for scientific research, conservation and sustainable development. <http://www.gbif.org/>

National Oceanic and Atmospheric Administration (NOAA)

NOAA is a U.S. federal agency focused on the condition of the oceans

and the atmosphere. Check NOAA project on marine diversity in Coral Triangle area at:

<http://oceanexplorer.noaa.gov/oceanexplorations/10index/background/biodiversity/biodiversity.html>

USAID

USAID, an independent federal government agency, works to support long-term and equitable economic growth, and advances U.S. foreign policy objectives. In recognition of the importance of biodiversity, USAID has made biodiversity conservation a key goal under its program to protect the environment. Learn more about USAID biodiversity programs at: http://www.usaid.gov/our_work/environment/biodiversity/index.html

To get more online resources on biodiversity from U.S. Government sites please check:

http://www.google.com/unclesam?hl=en&ei=SZpTTYalG8X_lgehkd3ACg&q=biodiversity&start=0&sa=N